STATE OF RHODE ISLAND AND PROVIDENCE PLANTATIONS

Department of Environmental Management
DIVISION OF SITE REMEDIATION
291 Promenade Street
Providence, R.I. 02908-5767

28 March 1996

Mr. Philip Otis, P.E., Remedial Project Manager
US Department of the Navy, Northern Division
Code 18, Mail Stop #82
10 Industrial Highway
Lester, PA 19113-2090

RE: Draft Final Allen Harbor Landfill and Calf Pasture Point
Marine Ecological Risk Assessment report
Naval Construction Battalion Center
Davisville, Rhode Island
Submitted on 22 February 1996

Dear Mr. Otis;

The Rhode Island Department of Environmental Management (RIDEM) Division of Site Remediation has reviewed the above referenced document and comments are attached.

If you have any questions or require additional information please call me at (401) 277 3872 ext. 7138.

Sincerely,

Richard Gottlieb, P.E.

Principal Sanitary Engineer

cc: W. Angell, DEM DSR
C. Deacutis, DEM NBEP
C. Williams, EPA Region 1

letter.rwg/richg

Draft Final
Allen Harbor Landfill and Calf Pasture Point
Marine Ecological Risk Assessment Report
Naval Construction Battalion Center
Davisville, Rhode Island

1. **Page 1-2, Sampling Plan, Executive Summary.**
Paragraph 1.

The information in the executive summary should be easy for the general public to follow. There is difficulty in understanding the layout of the issues at this site without quick access to maps/figures. It is suggested that copies of essential maps be added (EEZs, Station locations, etc.) *to the back of this section* as well as keeping them in the main body in order to better follow the discussion here. This is important for the general public (and even some state/federal officials) as this may be the only part of the document they read. As part of this concern, it would also be very helpful if the section headings indicated the Chapters associated with the discussion (e.g. Effects Assessment - Chapter 5) even if it is obvious on reading the rest of the document. These revisions would help any summary reader to quickly check on detailed text and data tables.

2. **Page 1-9, Risk Characterization, Executive Summary;**
Paragraph 1, Sentence 3.

Please clarify what the word "general" means in this sentence.

3. **Page 3-6, Section 3.1.2.1, Chemistry;**
Paragraph 4, Last Sentence.

In addition, nereid worms did not show elevated body burdens at the single Allen Harbor site compared to the MV reference station.

Please reference the station or at least provide the general location within the harbor for this site.

4. **Page 4-7, Section 4.2.1, Sediments;**
Paragraph 2.

Text discussion here indicates that tPAH at the "southern and eastern" parts of the harbor are low. In reality, the stations for this data are in the central western portion of the harbor (the south side of the landfill and adjacent wetland, not the harbor), and earlier work suggested a very high PAH level at station AH 8 at the yacht club dock. Please correct this statement.

5. **Page 5-14, Section 5.2.1, Amphipod Test Results;**
Paragraph 1, Sentence 2.

Please describe clearly how the additional 5 stations are significantly lower than controls.

Please state if this is to mean that these station results were < 80% of control survival rates or somewhere between 80 - 100%. In addition, please state if these are or are not statistically different (but still numerically lower than controls).

6. **Page 5-16, Section 5.3.1, Fish Distribution and Abundance; Paragraphs 2 and 3, Last Sentence Paragraph 2 and onward.**

It is unclear how a high SD would negate a finding of statistical significance since high variability is more likely to mask findings of significant differences. A significant difference here suggests a strong true difference in light of a high level of variability. However, the potential confounding due to habitat/size/age class preference mentioned on page 5-17 seems more likely as a possibility, although this site does have significant other endpoints suggesting a problem area. It is not agreed that a finding of non-significance in elevated metals tissue residue is proof of no effect. The metabolic costs associated with maintaining metallothionine and other detoxifying physiological systems in a high-exposure area could potentially short-circuit energy away from growth, thus causing the results seen. The Navy does indicate an acknowledgement of this site's potential risk on page 6-12, but the wording here suggests there is no pollutant-related problem. This contradiction needs to be addressed.

7. **Pages 6-39 thru 6-42.**

The two-sided copies have the wrong page order. Please correct for the final version.

8. **Page 6-42, Section 6.6.2, Tissue Screening Concentration Assessments; Whole Page.**

This section is very confusing based on previous discussions/chapters in the document. Not being familiar with the Tissue Screening Concentration (TSC) assessment methodology it could be a misinterpretation, but this section is read as saying that metals, especially zinc, are a significant risk source in terms of tissue residue levels, yet the toxicity data suggest that metals were not a problem but that PCBs may be. For example, Executive Summary, Page 1-9, Second Paragraph states *"there is a highly significant inverse correlation...(to) bivalve CI & HQ for PCBs and PAHs..".* . Please clarify the difference in risks proposed for metals vs PCBs etc. since these seem to be contradictory statements as to risk source. Figure 6.6-2 shows a fairly convincing statistical relationship, but this may be an artifact of the way HQs were developed rather than a true relationship to Zn tissue concentrations, please clarify. It would be helpful to discuss here or in Section 7 the PCB link to toxicity and how the concentrations and toxicity results compare to sites of known significant PCB problems like the New Bedford Harbor Study. Please state if these data are significantly lower and if the toxicity results are also lower. If toxicity is comparable, this suggests a more complicated picture than a straight dose-response situation with PCBs. This is important, especially since Page 3-4, Section 3.1.2.1 earlier stated that PCB levels in the harbor are comparable to levels found offshore in central Narragansett Bay. Please state if we have a general PCB toxicity threat in the Bay or if the PCB toxicity link spurious...or if there is another explanation for this link here. This needs to be rectified since PCB levels are not particularly high here. In addition, please state if PCBs drive most toxicity results in these marine waters.

9. **Page 7-2, Section 7.1, Interpretation of S verity and Significance of Risk.**

The above compounding issues involved in interpretation of all this information are more fully discussed here, but there is a problem with the above discussion of impact-drivers in Chapter 6 and then following this with a Chapter 7, Page 7-3 conclusion in the top paragraph that *"stress is not greatly impacting viability of populations (of bivalves) present"* (at the toe of the landfill). This seems inconsistent with the previously mentioned possibility of negative CI impacts in some bivalve species near the landfill (Stations W-5, 6, and 8). Also, please state if sources of pollutants are likely to be particle driven (sediments) coming off the edge of the landfill or if they are from leachate or a combination thereof. This will be an important issue in deciding the best control strategies to minimize/eliminate these risks.

10. Page 7-5, Section 7.3, Limitations of the Assessment.

It is agreed there is evidence of a high probability of some eco-risk in the southern landfill zone, but toxicity at W-6 and poor CI of ribbed mussels at W-8, 9, and 10 all suggest risk exists in the northern landfill area. In addition, at areas such as the No. stations W6-9 and W1-2, please state if there are any other potential sources (i.e. storm drainage) besides the landfill which may be providing pollutants potentially causing these impacts. This issue may need to be addressed to separate off-site NPS issues from landfill issues.

11. Figure 3-2, GIS Map of Land Cover/Use Surrounding the Harbor.

The purple color on the map for the area at the southern point at the mouth of the Harbor Channel (outside facing the Bay) indicates a conifer forest cover when in fact the area is a sand/gravel parking area and cobble beach with low shrubs. Please correct and check key to ensure other areas are color-coded properly for this map.